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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,270	08/28/2003	Andrew Sendonaris	010326	6608
23696 7590 05/18/2007 QUALCOMM INCORPORATED 5775 MOREHOUSE DR. SAN DIEGO, CA 92121				
			EXAMINER ROBERTS, BRIAN S	
			ART UNIT 2616	PAPER NUMBER
			NOTIFICATION DATE 05/18/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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# Office Action Summary

Application No.

10/650,270

Applicant(s)

SENDONARIS ET AL.

Examiner

Brian Roberts

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 12-14 and 21-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 15-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

- Claims 1-11, and 15-20 have been examined.

### ***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-11, and 15-20 are drawn to determining a search window, classified in class 370, subclass 328.
  - II. Claims 12-14, and 21-26 are drawn to determining a frequency hypothesis, classified in class 370, subclass 441.
2. Inventions of group 1 and group 2 are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination group 1 has separate utility such as determining a search window based on an estimated nominal PN offset. See MPEP § 806.05(d).
3. The examiner has required restriction between subcombinations usable together. Where applicant elects a subcombination and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to

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provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

4. Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Linda Gunderson on 04/26/007 a provisional election was made without traverse to prosecute the invention of group 1, claims 1-8, 9-11, and 15-20. Affirmation of this election must be made by applicant in replying to this Office action. Claims 12-14, and 21-26 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-11, and 15-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Soliman. (US 6542743)

The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

- In reference to claim 1

In Figures 2B and 3, Soliman teaches a method of determining a search window for processing signals in a wireless communications system that includes determining a distance between at least one mobile terminal and a base station based on their respective locations (column 8 lines 3-32); estimating a nominal PN offset of signals transmitted between the base station and the at least one mobile terminal based on the distance between the at least one mobile terminal and the base station (column 8 lines 33-64); and determining a search window used for processing the received signals based on the estimate of the nominal PN offset. (column 8 lines 65 – column 9 line 20)

- In reference to claim 2

Soliman further teaches estimating a nominal PN offset and determining a search window are performed in the base station. (column 8 lines 33-64)

- In reference to claim 3

Soliman further teaches the estimated nominal PN offset is transmitted from the base station to the at least one mobile terminal. (column 8 lines 3 – column 9 line 20)

- In reference to claim 4

Soliman further teaches the search window is transmitted from the base station to the at least one mobile terminal. (column 8 lines 3 – column 9 line 20)

- In reference to claim 5

teaches estimating a nominal PN offset and determining a search window are performed in the at least one mobile terminal. (column 8 lines 3 – column 9 line 20)

- In reference to claim 6

Soliman further teaches the signals received at the at least one mobile terminal include a pilot signal. (column 8 lines 3 – column 9 line 20)

- In reference to claim 7

Soliman further teaches the pilot signal is encoded with a pseudorandom code.

(column 8 lines 3 – column 9 line 20)

- In reference to claim 8

Soliman further teaches different base station pilot signals are distinguished by their unique PN offsets. (column 8 lines 3 – column 9 line 20)

- In reference to claim 9

In Figure 2B and 3, Soliman teaches a receiver configured to receive a communication signal from a base station (column 8 lines 3-32); a controller configured to estimate a nominal PN offset of the received communication signals based on a distance between the mobile terminal and the base station, and to determine a search window in response to the distance between the mobile terminal and the base station (column 8 lines 33-64); and a search engine configured to accept the search window and to perform a search of the received communication signal using the search window. (column 8 lines 65 – column 9 line 20; column 10 lines 30-59)

- In reference to claim 10

Soliman further teaches the received communication signal comprises a pilot signal. (column 8 lines 3 – column 9 line 20)

- In reference to claim 11

In Figure 2B and 3, Soliman teaches a mobile terminal that includes a receiver configured to receive communication signals from a base station (column 8 lines 3-32); a location engine configured to accept navigational information and to thereby determine location of the mobile terminal (column 8 lines 33-64); a controller configured to estimate a nominal PN offset of the received communication signals based on a distance between the mobile terminal and the base station based on the location of the mobile terminal, and to determine a search window in response to the distance from between the mobile terminal and the base station (column 8 lines 33-64); and a search engine configured to accept the search window and to perform a search of the received communication signal using the search window. (column 8 lines 65 – column 9 line 20; column 10 lines 30-59)

- In reference to claim 15

In Figure 2B and 3, Soliman teaches a base station that includes a receiver configured to receive communication signals from a mobile terminal (column 8 lines 3-32); a controller configured to estimate a nominal PN offset of the received communication signals based on a distance between the mobile terminal and the base station, and to determine a search window in response to the distance from between the mobile terminal and the base station (column 8 lines 33-64); and a search engine configured to accept the search window and to perform a search of the received communication signal using the search window. (column 8 lines 65 – column 9 line 20;



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column 10 lines 30-59)

- In reference to claim 16

Soliman further teaches the nominal PN offset is transmitted from the base station to at least one mobile terminal. (column 8 lines 3 – column 9 line 20)

- In reference to claim 17

Soliman further teaches the search window is transmitted from the base station to at least one mobile terminal. (column 8 lines 3 – column 9 line 20)

- In reference to claim 18

In Figure 2B and 3, Soliman teaches a base station that includes a receiver configured to receive communication signals from a mobile terminal (column 8 lines 3-32; a location engine configured to accept navigational information and thereby determine a location of the mobile terminal; a controller configured to estimate a nominal PN offset of the received communication signals based on a distance between the mobile terminal and the base station based on the location of the mobile terminal, and to determine a search window in response to the distance from between the mobile terminal and the base station (column 8 lines 33-64); and a search engine configured to accept the search window and to perform a search of the received communication signal using the search window. (column 8 lines 65 – column 9 line 20; column 10 lines

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30-59)

- In reference to claim 19

Soliman further teaches the nominal PN offset is transmitted from the base station to the mobile terminal. (column 8 lines 3 – column 9 line 20)

- In reference to claim 20

Soliman further teaches the search window is transmitted from the base station to the mobile terminal. (column 8 lines 3 – column 9 line 20)

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure are:

- Bayley (US 6775252) teaches a dynamic adjustment of search window size in response to signal strength.
- Soliman (US 6542743) teaches a method and apparatus for reducing pilot search times utilizing mobile station location information.
- Byun (US 6445728) teaches a method of establishing search window size for a mobile station in a cellular system.
- Pfeil et al. (US 6191738) teaches a method and apparatus for locating a remote unit within a communication system.

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- Soliman et al. (US 6188354) teaches a method and apparatus for determining the location of a remote station in a CDMA communication network.
- Hwang et al. (US 6161022) teaches a method of adjusting size of a base transceiver station search window.
- Sutton (US 5805648) teaches a method and apparatus for performing search acquisition in a cdma communication system.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Roberts whose telephone number is (571) 272-3095. The examiner can normally be reached on M-F 10:00-7:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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BSR  
05/10/2007

A handwritten signature in black ink, appearing to read 'H. Kizou', with a large, stylized 'K' and a horizontal line extending to the right.

HASSAN KIZOU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600